

## REMARKS

Claims 1-19 are pending in the application.

### **Rejection Under 35 U.S.C. §112, first paragraph**

Claim 8 has been rejected for allegedly lacking support in the applicants' specification. This rejection is believed overcome view of the following remarks.

The applicants respectfully assert that the embodiment recited in claim 8 is described and illustrated in the applicants' specification in such full, clear, and concise manner as to allow someone skilled in the art to fully practice the claimed invention. For example, Figs. 3 and 4 and the related discussion on pages 20-22 of the applicants' specification provide full support for claim 8. Accordingly, the applicants respectfully request that this rejection be withdrawn.

### **Rejection Under 35 U.S.C. §103(a)**

Claims 1-12 have been rejected over Saitho et al. in view of Ohtomo et al. This rejection is believed overcome view of the following remarks.

The Office Action alleges that it would have been obvious to combine the teachings of Saitho et al. and Ohtomo et al. to form the tip surface of the upper core layer in the device disclosed by Saitho et al. so as to have an inclined region and, in particular, to have an inclined region with an inclination angle of  $\theta_2$ . The applicants respectfully assert that to establish a *prima facie* case of obviousness, there must be some motivation for a combination of the cited references. In the instance rejection, there is no motivation for a combination of Ohtomo et al. and Saitho et al. Instead, Saitho et al. point to a prior art structure similar to that described by Ohtomo et al. and expressly discourage formation of inclined tip surface in view of the alleged advantages achieved through the described planar fabrication process and resulting vertical tip surface. Accordingly, there is no explicit or inherent suggestion to combine the teachings of Ohtomo et al. with those of Saitho et al.

The rationale for combining these references apparently relates to a description in Ohtomo et al. of the improved recording characteristics if the inclination angle is greater than 80°. (Office Action, pg. 3-4). Since Saitho et al. teach an upper core layer

having a substantially vertical tip surface of 90° angle, the Office Action alleges one of ordinary skill in the art would have been motivated to reshape the tip surface of Saitho et al. so as to be similar to that shown by Ohtomo et al. The Applicants respectfully assert that Saitho et al. does not support or suggest the formation of the upper core layer to have an inclined tip surface. Accordingly, there is no suggestion for the combination of these references and a case of *prima facie* obviousness has not been established. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 58 USPQ2d 1286, 1293 (Fed. Cir. 2001)(in holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention).

The applicants assert that teaching of the entire reference must be considered. It is improper to pick and choose portions of a reference in supporting an obviousness rejection, while ignoring other portions that discourage combination with another reference. *Akzo N.V. v. United States Int'l Trade Comm'n*, 1 USPQ 2d 1241, 1246 (Fed. Cir. 1986) ([P]rior art references before the tribunal must be read as a whole and consideration must be given where the references diverge and teach away from the claimed invention ... Moreover, appellants cannot pick and choose among individual parts of assorted prior art references "as a mosaic to recreate a facsimile of the claimed invention."). Saitho et al. disclose a thin-film magnetic head having a yoke portion (142) and a front end portion (141) of the upper pole layer (14). The precise geometric characteristics of the disclosed upper pole layer is made possible by the formation of the underlying layers on planar surfaces. Saitho et al. seek to overcome a deficiency in the prior art associated with excessively large gap depths (designated D). Saitho et al. recognize that improved recording capacity can be made possible by decreasing the gap depth D and minimizing the width W of the front end portion of the upper pole layer (92). (Col. 1, ll. 65-67, col. 2, ll. 1-3).

Saitho et al. contrast their invention with the prior art device that they illustrate in Figure 19 of their drawing. Figure 19 shows a prior art structure that allegedly exhibits reduced recording capacity. The structure illustrated by Saitho et al. in Figure 19 includes an inclined tip surface of the upper core layer. The structure is formed by

laminating a series of layers one upon the other. (Col. 1, ll. 34-45). Saitho et al. explain that the method of construction of the device illustrated in Figure 19 renders it difficult to properly form a resist pattern frame leading to an excessive amount of overexposure of the resist. (Col. 2, ll. 15-38). The overexposed resist results in a large gap depth D. Importantly, the method of construction leads to the inclined tip surface of the upper core layer illustrated in Figure 19.

To remedy the identified problem, Saitho et al. teach a method for overcoming the fabrication difficulties associated with the device illustrated in Figure 19. In particular, improved lithographic patterning is obtained by forming the resist frame on a flat surface during processing. (Col. 5, ll. 14-26). Further, Saitho et al. describe the preferred lapping process used to form flat layers upon which the resist frame. (Col. 6, ll. 56-67). In view of the extensive teaching by Saitho et al. of fabrication techniques that achieve a desired reduction in the gap depth D, and the planar process to produce an upper pole layer having the vertical tip illustrated in Figure 1, the applicants assert that there is no suggestion within Saitho et al. to adapt an inclined tip surface. Since the device described in Figure 1 allegedly overcomes the performance problems of the device illustrated in Figure 19, the applicants respectfully assert one skilled in the art would not be motivated to arbitrarily form the device illustrated by Saitho et al. in Figure 1 to have an upper core layer configured as claimed taught by Otohmo et al.

The Applicants respectfully assert that a *prima facie* case of obviousness has not been established. In the instance Office Action has not provided any motivation for a combination of Ohtomo et al. and Saitho et al. Instead of suggesting a combination, Saitho et al. expressly discourages such a combination in view of the alleged advantages achieved through the described fabrication process and resulting device configuration.

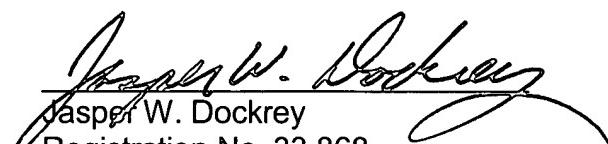
Claim 13 has been rejected over Saitho et al. in view of Ohtomo et al. and further in view of Yamanaka et al. This rejection is believed overcome in view of the foregoing remarks pertaining to claim 1 from which it depends.

Claim 18 has been rejected over Saitho et al. in view of Ohtomo et al. and further in view of Sasaki. This rejection is believed overcome view of the foregoing remarks pertaining to claim 1 from which it depends.

Claim 19 has been rejected over Saitho et al. in view of Ohtomo et al. and Sasaki. The applicants respectfully assert that Sasaki does not suggest or disclose the claimed upper core layer having a tip surface that is curved and set back from the face surface in a height direction. Instead, Sasaki discloses a magnetic layer (47) extends across a third magnetic layer (41) and terminates at the face surface. (FIGs.22-25, Cols. 10-11). The disclosure of Sasaki stands in sharp contrast to the thin-film magnetic head of claim 19. Further, in view of the teaching away by Saitho et al. of an upper core layer having an inclined or curved surface, as set forth above, there is no suggestion for the combination of the teachings of Saitho et al. with Ohtomo et al. The applicants respectfully assert that the addition of Sasaki does not support the combination of Ohtomo et al. with Saitho et al., and, accordingly, a *prima facie* case of obviousness has not been established.

The applicants have made a novel and nonobvious contribution to the art of thin-film magnetic head design. The claims at issue are believed to distinguish over the cited references and to be in condition for allowance. Accordingly, such allowance is now necessarily requested.

Respectfully submitted,



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